

CHARLES A. KYLE

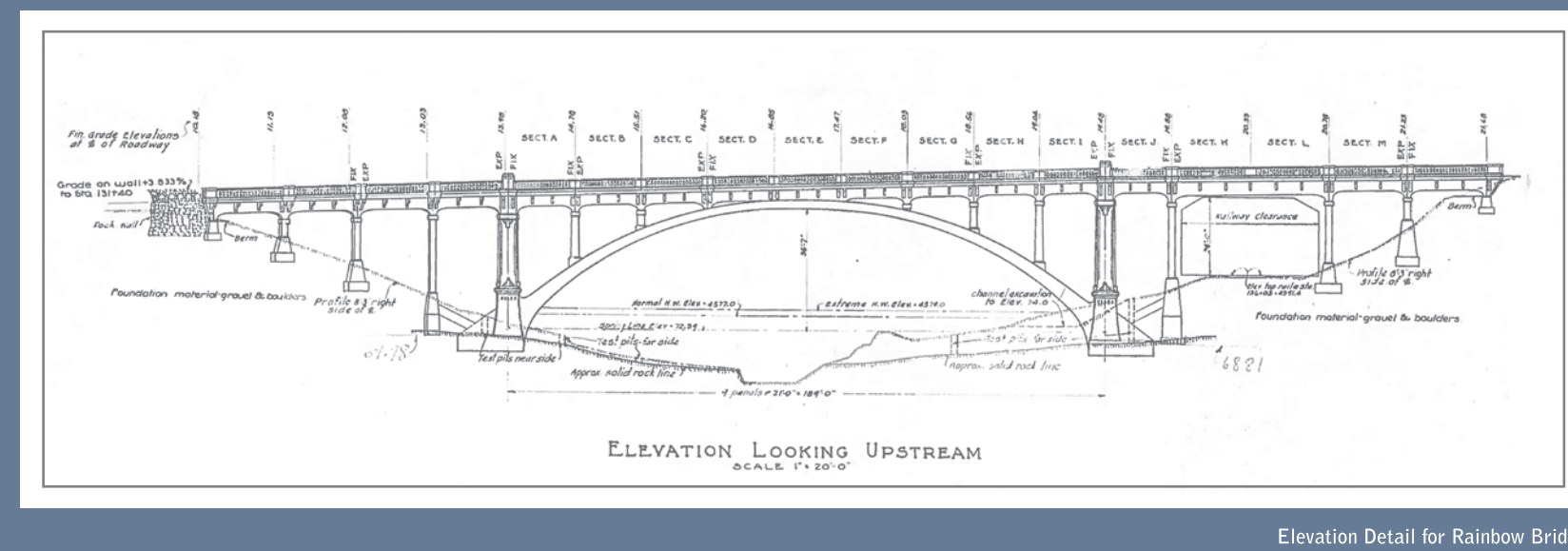
1864 – 1936



Designer of the 1931 Lardo Bridge

“BEFORE THERE CAN BE A BRIDGE THERE MUST BE A MAN WITH A DREAM.” — Joe Wilson, Idaho Statesman, January 22, 1933

All across Idaho, rushing water, roaring creeks, and open canyons require bridges for safe crossing. Between 1919 and 1936, Charles A. Kyle created bridge designs for the Idaho state highway system, including the 1931 Lardo Bridge. Many of the bridges he designed are gone, but among those that remain are two masterpieces familiar to many who travel the state--the Rainbow Bridge over the Payette River near Smith's Ferry and the Oregon Trail Memorial Bridge (now known as the Capitol Boulevard Bridge) over the Boise River in downtown Boise.



Elevation Detail for Rainbow Bridge

EXPERIENCED DESIGNER AND ENGINEER

Charles Arnold Kyle was born in Canada in 1864. When he was a child, his family moved to Kansas City, Missouri, where his father was superintendent of bridges for the Baltimore Bridge Company. As a youth, Kyle worked with his father during summer vacations, gaining hands-on bridge building experience on projects in the Midwest. In 1881, at age seventeen, he landed a job with the Kansas City Bridge and Iron Company. A few years later, when the company merged with the Chicago Bridge and Iron Company, Kyle moved to Illinois.

In 1900, Kyle went to work for the American Bridge Company, an industry leader in steel bridge design and construction and a pioneer in the use of structural steel for buildings. Kyle held various positions at American Bridge. He managed the

company plant in Lafayette, Indiana; supervised the drafting department in Chicago; and served as structural engineer and designer for several major construction projects including smelters and associated structures in Nevada and Utah. The western states must have appealed to him because by 1915 he had left American Bridge and opened a structural engineering office in Salt Lake City. Before the end of the year, he accepted an offer from the state of Montana for the newly-created office of bridge engineer, charged with developing standard plans for bridge designs and overseeing construction of new bridges.

ON TO IDAHO

In 1919, after four years in Montana, Kyle made Idaho his home. Like Montana, Idaho established a new position of bridge engineer, and Charles Kyle was the first person to hold the job. Artistic and detail oriented, Kyle directed the bridge department to design innovative, graceful, and functional bridges. During the 1920s, most bridges were steel truss and short-span concrete bridges. As technology changed, the long span concrete beam bridge became a popular and economical design.

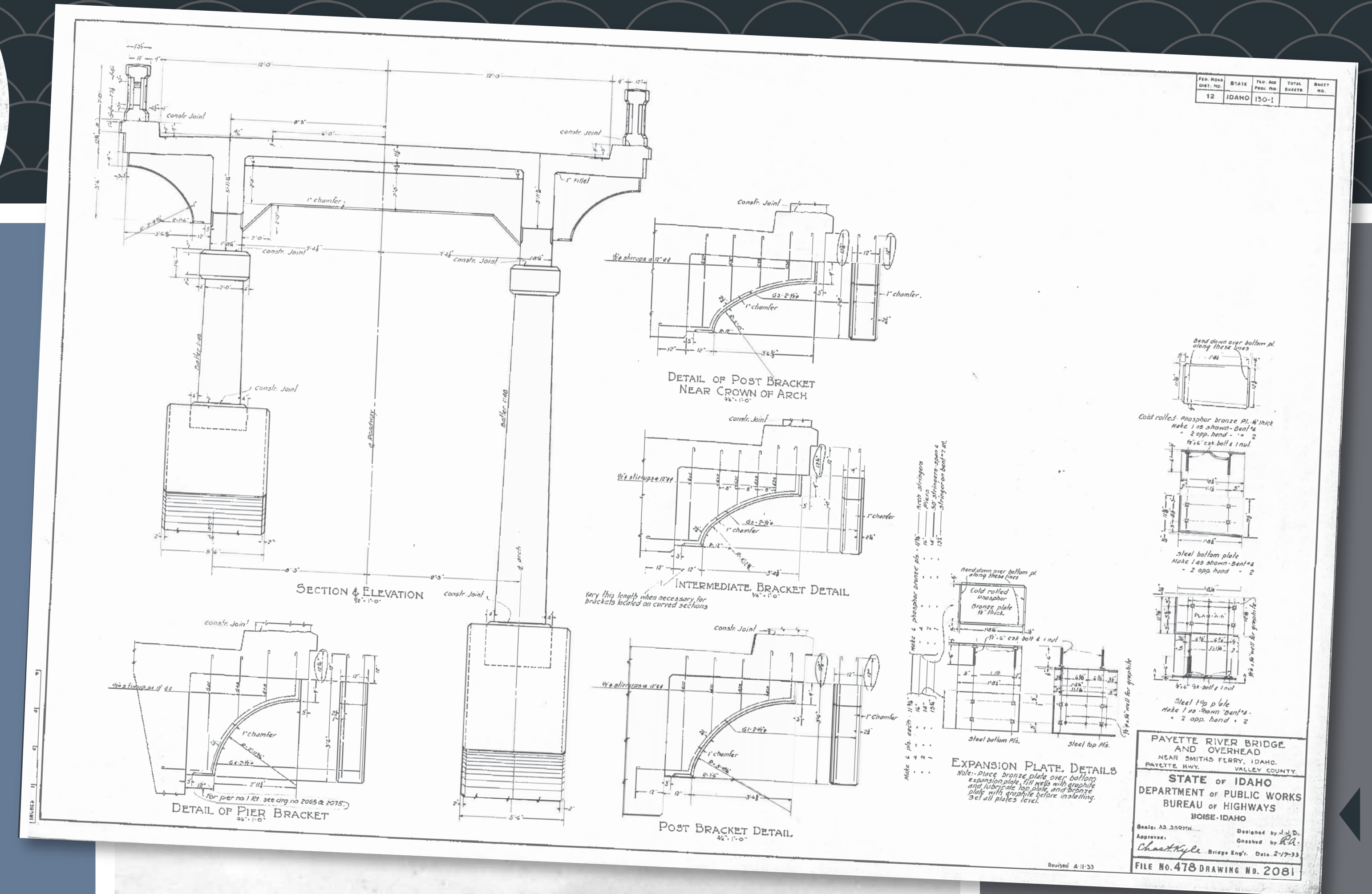
NEW BRIDGE DESIGN

Kyle introduced the open spandrel concrete arch to Idaho. The striking form was used for the 1926 Salmon Bridge in Salmon, Idaho, then refined for the Oregon Trail Memorial Bridge (1931) and the Rainbow Bridge (1933).

In a 1933 profile of Charles Kyle published in the Idaho Statesman (Boise), the reporter noted that Idahoans would remember Kyle, not for his personal fortune or political office, but for “**helping make the state’s highways more stately.**” His beautiful bridges are his legacy.

▶ DID YOU KNOW?

An open spandrel bridge has open walls, while a closed spandrel bridge does not. An open spandrel is less expensive to build, requiring less material, and the elegant, open arches blend easily into a scenic view.

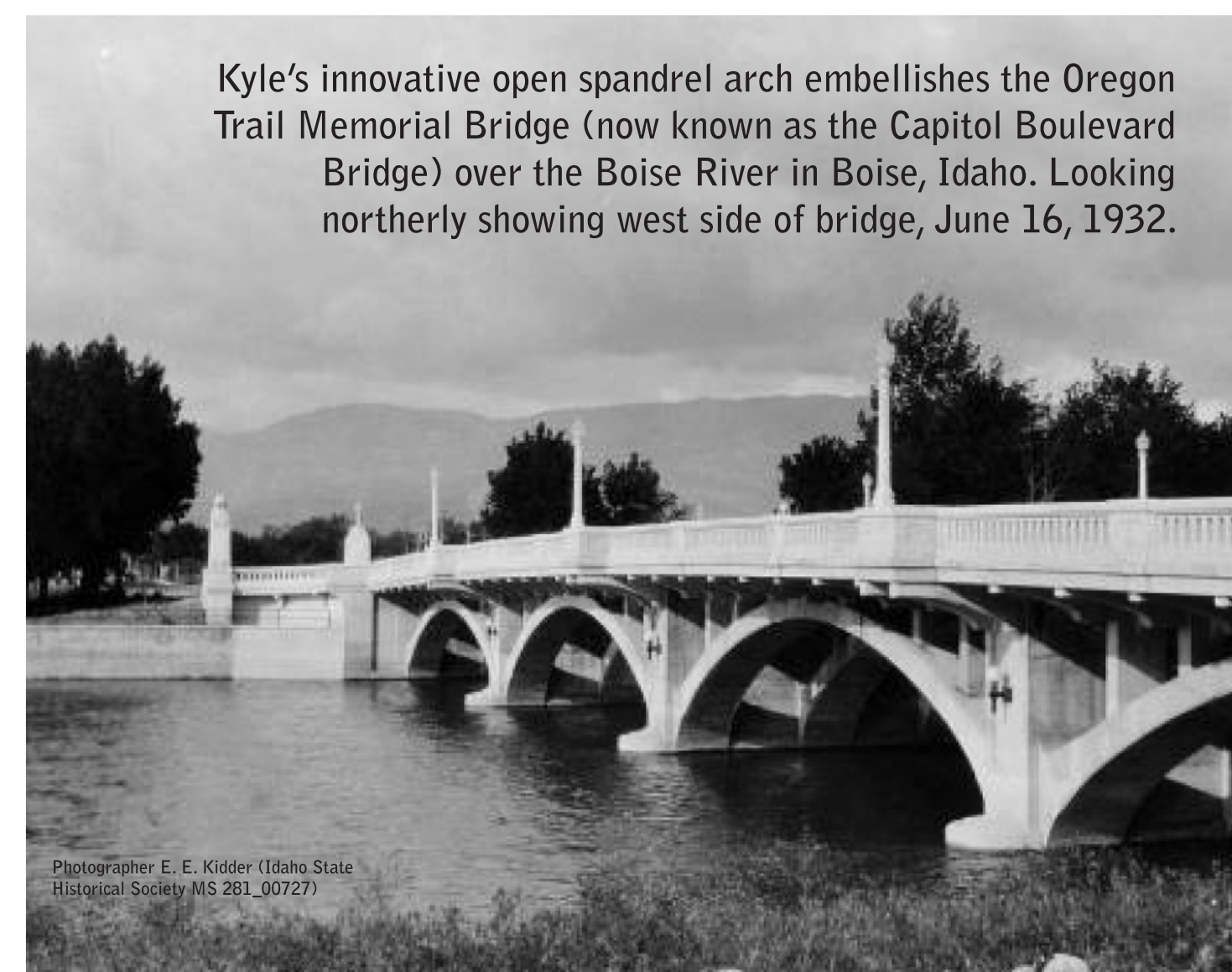


Details from Plans for Rainbow Bridge.



Oldtown Bridge (also known as the Newport Bridge) over the Pend Oreille River on U. S. Highway 2, Bonner County, Idaho. This photo, taken July 6, 1927, shows the newly completed bridge. Although it no longer stands, the bridge was an example of the type of steel and concrete bridge designed by the bridge department under the supervision of Charles A. Kyle.

The 1933 Rainbow Bridge, over the North Fork of the Payette River, near Smith's Ferry on Idaho Highway 55, the largest single-span concrete arch structure in Idaho, was a major engineering achievement and reflected the leading edge of bridge design in its time.



Kyle's innovative open spandrel arch embellishes the Oregon Trail Memorial Bridge (now known as the Capitol Boulevard Bridge) over the Boise River in Boise, Idaho. Looking northerly showing west side of bridge, June 16, 1932.



Undated photograph, photographer unknown. Courtesy of the Idaho State Historical Society IHS 75-31-4